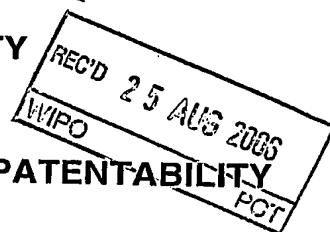


# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)



### (PCT Article 36 and Rule 70)

Applicant's or agent's file reference 15830 TpCm	<b>FOR FURTHER ACTION</b> See Form PCT/PEA/416	
International application No. PCT/GB2005/000882	International filing date (day/month/year) 08.03.2005	Priority date (day/month/year) 09.03.2004
International Patent Classification (IPC) or national classification and IPC INV. B01D46/50 B01J19/08		
Applicant ACCENTUS PLC		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, Including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 1 sheets, as follows:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the report</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the International application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>		
Date of submission of the demand 06.01.2006	Date of completion of this report 21.08.2006	
Name and mailing address of the International preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized officer  Faria, C Telephone No. +31 70 340-3541	

## **INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.  
PCT/GB2005/000882

**Box No. I Basis of the report**

1. With regard to the language, this report is based on

- the international application in the language in which it was filed
- a translation of the international application into , which is the language of a translation furnished for the purposes of:
  - international search (under Rules 12.3(a) and 23.1(b))
  - publication of the international application (under Rule 12.4(a))
  - international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements\* of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

**Description, Pages**

1-12 as originally filed

## **Claims, Numbers**

1-6 received on 09.01.2006 with letter of 06.01.2006

## **Drawings, Sheets**

15-5/5 as originally filed

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
- 3.  The amendments have resulted in the cancellation of:
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):
- 4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2005/000882

**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	2,3
	No:	Claims	1,4-6
Inventive step (IS)	Yes:	Claims	
	No:	Claims	2,3
Industrial applicability (IA)	Yes:	Claims	1-6
	No:	Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.  
**PCT/GB2005/000882**

**Re Item V.**

1 Reference is made to the following documents:

D1 : US 2003/098230 A1 (CARLOW JOHN SYDNEY ET AL) 29 May 2003 (2003-05-29)

**2 INDEPENDENT CLAIM 1**

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parentheses applying to this document):

A non-thermal plasma reactor for treatment of a gaseous medium comprising a plurality of double sided filter elements in a stack, the elements acting as electrodes of the reactor and being connectable alternately to high voltage and earth and provided with dielectric barrier (13) between successive filter elements wherein the gaseous medium is constrained to flow into the filter elements through both sides thereof.

Although the different embodiments discussed in D1 require at least one of the electrodes to be non-permeable, claim 1, in its present form does not exclude the presence of a non-permeable electrode .

Also the electrodes, as disclosed in D1 are mesh electrodes and as such considered to be permeable and to allow the gaseous medium to pass through both sides thereof.

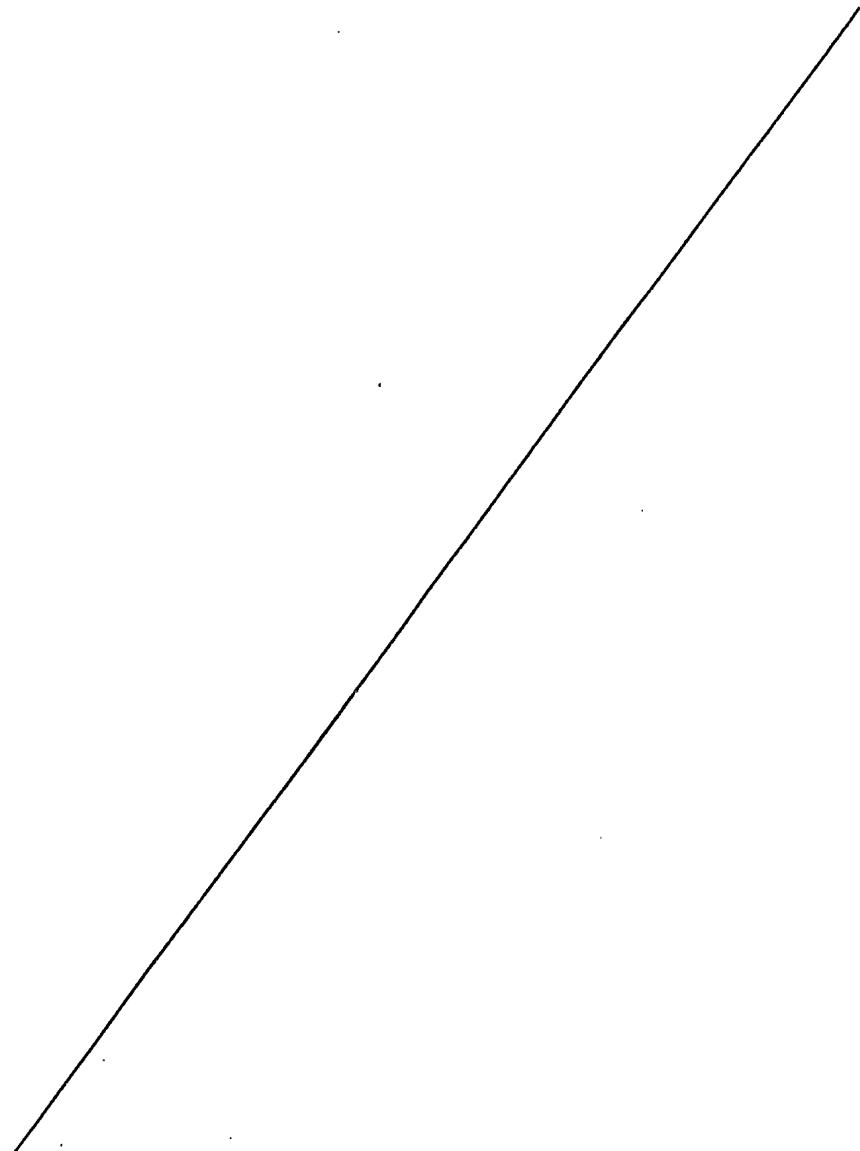
The subject-matter of claim 1 is thus, not new. (Article 33(2) PCT)

**3 DEPENDENT CLAIMS 2-6**

Dependent claims 4-6 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.  
PCT/GB2005/000882



-13-

Claims

1. A non-thermal plasma reactor for the treatment of a gaseous medium comprising:
  - 5 a plurality of double-sided filter elements in a stack, the elements acting as electrodes of the reactor and being connectable alternately to high voltage and earth, and
  - 10 provided with a dielectric barrier between successive filter elementswherein the gaseous medium is constrained to flow into
  - 15 the filter elements through both sides thereof.
2. A reactor according to claim 1 wherein the filter elements are annular.
- 20 3. A reactor according to claim 1 or 2 wherein the filter elements are hollow.
4. A vehicle, ship or power generation unit comprising a reactor according to any one of claims 1 to 3.
- 25 5. A method for treating a gaseous medium to remove particulates comprising passing the gaseous medium through a reactor according to any one of claims 1 to 3 and generating a plasma in the reactor intermittently or
  - 30 continuously.
6. Use of a reactor according to any one of claims 1 to 3 for the removal of particulates from a gaseous medium.